

Assessment of the Level of Awareness among Parents about Avertive Measures and its Relationship with Dental Health Status of 6–12 Years Old Children in Hazaribag, Jharkhand, India

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Abstract

Background: A child's oral health is critical to his or her general health as well as well-being, and it is one of the foundations for a disease-free life. Because a parent or caregiver plays such a significant part in a child's life, their understanding together with attitude toward oral health will have a significant influence on the child's oral healthiness.

Aim: The goal of this research is to assess oral health expertise among parents of children within the age group of 6–12 years in Hazaribag and its link to their children's dental health.

Materials and procedures: The research comprised 200 parents of children aged 6–12 years old who had no systemic illness or pathology. The parents were given a detailed questionnaire with apparent validity that included questions on their perspectives about their children's dental health awareness, caries avertion, and the significance of food. SPSS 23 was used to do statistical analysis on the data.

Results: The findings indicated that children of parents with a poor understanding of oral health had higher decaying, missing, as well as filled teeth (DMFT/dmft) scores than children of parents with a good understanding of oral health.

Conclusion: It is critical for parents to be educated about oral health in order to maintain their children's oral health.

Keywords: DMFT/dmft, Oral health awareness, Parents, School-going children.

Introduction

Oral health is an important part of a child's total welfare as well as general health. A disease-free oral cavity together with its surrounding structures are indicators of excellent oral health. Because a parent or caregiver plays such a significant part in a child's life, their oral health expertise along with attitude will have a stronger influence on the child's oral health. Rising data suggests that a mother's excellent oral health from the start of her pregnancy may be the key to her children's good oral health. 1 The deficiency of cognizance as well as attitude towards oral health among parents together with caregivers has been cited by most researches as the key cause of their children's poor oral health².

The majority of dental health education activities focus on educating and persuading parents and children to limit their sugar consumption, wash their teeth with fluoride toothpaste, and see the dentist on a regular basis. Averting and managing oral health problems, on the whole, requires a great deal of self-awareness and action. 3

The foundation of excellent dental health is oral health education and information. Parents are the inspiration for their children and may inculcate healthy oral habits in them if they are knowledgeable about dental illnesses and how to avoid them. 4,5 It has been shown that developing healthy oral and dental behavior patterns is important in sustaining excellent oral health. 2 Caries are caused by a variety of etiological causes, including poor hygiene and disregarding dental requirements. 3

It has been suggested that parents should develop preventive oral habits early in their life so that they may pass them on to their children. This would contribute to a positive impact on their child's oral health. 6 Dental practitioners may act as an important role in training parents and assisting them in understanding the need of at-home dental care. 7 Because many parents may have limited reading abilities, educational messaging as well as written materials conveying oral health info should be simple to grasp and read. 8 Within one year of birth, the American Academy of Pediatric Dentistry (AAPD) advises that children see a dentist for an oral health risk assessment. 9

The use of a prevalidated questionnaire to evaluate the expertise together with attitudes of mothers aids in the formulation of a successful oral health promotion program. As a result, a deeper understanding of mothers' current oral health expertise together with attitudes, as well as their personal oral hygiene habits, is critical. As a result, the purpose of this research is to gather baseline data in order to analyze parents' expertise together with attitudes concerning oral health in addition to their link to the frequency of dental caries in their children in Hazaribag.

Materials and Methods

The cross-sectional research comprised 200 parents of school-aged children within the age group of 6–12 years in Hazaribag. The percentage of mothers' expertise was computed at 26%, with a 95% confidence range in addition to a 5% margin of error, yielding a sample size of 200 parents. A successive sampling strategy was used to acquire the data. Around 25% of the samples were pretested in the same environment. Five Hazaribag blocks make up the main sample unit (i.e., Barhi, Padma, Ichak, Daru, Hazaribag). The samples were chosen evenly and randomly within each block by visiting residences. The Institutional Ethical Review Board granted ethical approval. Participants in the research gave their written agreement as well. The research comprised children within the age group of 6–12 years old from the same family having no systemic illness or pathology. A single operator used a mirror, a probe, a portable light, together with cotton pellets for isolation to examine youngsters for the presence or absence of dental caries, missing (extracted or congenital) teeth, along with filled teeth. For primary and permanent teeth, caries was identified using WHO criteria as dmft/DMFT Index¹⁰.

In cooperation with specialists and the participants themselves, a multiple-choice questionnaire with apparent validity was developed. All questions (in English/Hindi) were rationally prepared, with ten questions focusing on parental awareness of oral health information, caries averted, and the importance of nutrition. To check for linguistic discrepancies, a questionnaire was established in English, translated into Hindi, and then back translated into English. In the same questionnaire, demographic data was collected. On a two-point scale, parents' expertise was assessed (satisfactory and unsatisfactory). A perfect

response rate was achieved. Codes 2 and 3 of each question were combined into a single category for statistical analysis, i.e., code 2 was marked as unsatisfactory and code 1 was designated as acceptable.

The information gathered was collated and statistically evaluated using SPSS version 23. The frequency and percentages of parents' degree of awareness were recorded, along with the Chi-square test was used to evaluate the relationship amid the prevalence of caries along with gender. The paired t test was utilized to investigate the link amid parents' oral health awareness and their children's dental caries experiences. The significance threshold was chosen at $p < 0.005$.

Result

The expertise of parents toward oral health was assessed using a ten-item questionnaire. Table 1 shows the outcomes of each individual question.

There were 128 girls and 72 males among the 200 youngsters ages 6–12. Caries affected 41.5 percent of the population, whereas the rest were caries-free. The mean DMFT score was 0.97 in total. Males had a mean DMFT score of 1.02, while females had a score of 0.93. dmft's total mean score was 1.32. Males had a mean dmft score of 1.47, while females had a score of 1.12. Amid the sexes, there was no statistically significant difference in caries prevalence ($p = 0.13$ DMFT and 0.16 DMFT) (Table 2).

Caries impacted 54.83 percent of children whose parents had inadequate awareness, whereas 28.3 percent of children whose parents had enough expertise were affected. The mean DMFT scores for children with excellent and bad oral health expertise were 0.08 and 0.93, correspondingly. Children whose parents' degree of awareness was inadequate had the

highest DMFT ratings, followed by children whose parents' level of expertise was good (Table 3). There was a very statistically significant difference ($p < 0.005$) in the findings.

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Discussion

Dental caries is a serious public health issue in developing nations, affecting 60–90 percent of school-aged children.¹¹

The purpose of this research was to see whether there was a link amid a parent's dental expertise and their children's dental caries. For the age range of 6–12 years, this research found a mean DMFT of 0.97, 1.02 for men, and 0.93 for females. In a research done in Tehran, the DMFT index in 12-year-old kids fell from 1.67 to 0.77,¹² although a cross-sectional trial in India found a mean DMFT of 2.41 in 13–15-year-old schoolchildren.¹³ According to Kalra et al.¹⁴, the mean dmft of 7–8-year-olds was 0.95, while that of 9–10-year-olds was 0.98.

1.18. In contrast, the total mean dmft scores of children within the age group of 6 to 12 years in our research were 1.32. Any caries at 3, 5, 7, as well as 10 years of age was a prognosticator of poor oral health at 15 years of age, according to Leena et al.¹⁵ Children have both primary as well as permanent teeth in the oral cavity when they are 7–8 years old. If the primary teeth are carious, the likelihood of bacterial transfer to freshly erupted permanent teeth rises considerably. This emphasises the need of implementing prophylactic measures once the secondary dentition emerges into the mouth cavity. Nevertheless, the necessity for premature intercession to reduce or eradicate oral illness, in addition to the importance of oral health, necessitates parental involvement in their children's avertative methods.

In the current investigation, the occurrence of dental caries was observed to be similar in both sexes. Al-Malik and Rehbini¹⁶ found no significant difference in caries prevalence amid men and females, with 146 (50.7%) males along with 142 (49.3%) females. Correspondingly, Joshi et al.¹⁷ found no variance in the prevalence of dental caries in boys as well as girls. In addition, Dhar and Jain¹⁸ found no statistically significant difference in caries prevalence across the sexes.

Dental caries is complex, besides a variety of variables must be considered while estimating its severity. Sugar consumption is common, there is little fluoride exposure, and people are unaware of the need of frequent dental examinations. Sucrose has long been recognised as a major etiological component in caries. Children are always at peril of acquiring dental caries due to the easy accessibility of sugar-containing foods and increased intake of sweets. According to the findings of this survey, a large percentage of parents are aware that excessive snacking and a sticky diet might lead to tooth disease. Kalsbeek and Verrips¹⁹ found the opposite, finding that 4% of Dutch children eat more than five sweet snacks each day, besides that their children's mean DMFT score was likewise high.

Oral hygiene is an important factor in reducing caries rates, and thankfully, all parents in our survey were cognizant of cleaning teeth with a toothbrush together with toothpaste, with 61.2 percent knowing to brush twice a day. In the interest of excellent hygiene, daily personal oral hygiene (tooth brushing as well as flossing) is suggested.

Parents in this research preferred not to take their children to the dentist until they saw any apparent signs such as swelling, pus discharge, a lack of appetite, or a speech impediment. It is vital to see the dentist on a regular basis rather than waiting until tooth disease has developed. Media and commercials on TVs, the Internet, and billboards may drive and persuade a youngster to practise good mouth hygiene in the digital world. More than half of the parents in this survey didn't know what fluoride did or even what the term fluoride meant. This was in contrast to Elena and Petr's research in Belarus, which found that 84.7 percent of people were aware of the value of fluoride in averting tooth decay.²⁰ According to Vallejos-Sánchez et al.²¹, the frequency with which children wash their teeth is closely related to their

parents' educational degree. This is in line with the results of the current research. The frequency of teeth brushing, as reported by Razmien et al.²², influences the occurrence of dental caries. In this research, children of illiterate parents were shown to have an irregular brushing practise, making them more prone to toothache in addition more likely to see the dentist for dental issues.

The European Academy of Pediatric Dentistry has urged for the usage of fluoride on a daily basis in any comprehensive preventive programme for children's dental caries.²³ Brushing utilizing a fluoridated toothpaste has long been regarded an excellent public health technique since it is simple to use, affordable, and culturally acceptable. ²⁴

The expertise grades were equated to caries status in this research to see whether there was a link amid parental expertise along with dental caries in their children. The outcomes were concluded to be with a p value of 0.05, the result is significant. This reinforces the fact that the family is responsible for the lifestyle, conduct, and habits of their children. The majority of research have also shown that the mother's oral health is important.

Their expertise may have an impact on their children's oral health.^{12,19}

In this research, we discovered that a parent's educational degree had a significant encouragement on their child's dental health. This is in line with what has been discovered in the literature. ^{25–27} Children with educated parents had better dental health in this trial's sample group. This was attributed to the fact that it was more cost-effective, that there was more information available, and that there were more health-care experts available.

Dental caries is considered as the most frequent oral health disorders that affects children, particularly those from poor socioeconomic backgrounds. Parents' thorough understanding and implementation of oral hygiene habits, on the other hand, may be mirrored in their offspring. ³ As a result, motivating along with educating parents may aid in minimising the liability of dental caries and establishing in their children a healthy dental attitude. Furthermore, since children spend a significant amount of time in school, elementary schools may serve as sites for teaching oral hygiene techniques. It may be stated from this research that a parent's oral health behaviours together with degree of dental expertise are critical in determining a child's oral health condition and requirements.

The Trial's Limitations

As a result of the small sample size, the current research can only give limited information on the association amid the frequency of dental caries in school-aged children together with their parents' degree of oral health cognizance. As a result, further research is needed with a bigger sample size that includes people from various socioeconomic backgrounds and educational levels.

Conclusion

Although parents' comprehension of several aspects impacting oral health was strong, there were still some gaps that needed to be addressed. Because avertion is always preferable than treatment, a parent's education may be one of the most important aspects in avoiding oral disorders and encouraging their children's oral health. It is necessary to improve dental health education efforts aimed at parents of school-aged children so that initiatives to avert dental caries may begin at a young age.

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